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UNCLAS SECTION 01 OF 05 MADRID 004613

SIPDIS

SENSITIVE

DEPARTMENT FOR OES/EGC, EB/ESC/IEC, AND EUR/WE; NRC FOR  
INTERNATIONAL PROGRAMS: ROSALES-BUSH; DOE FOR INTERNATIONAL  
PROGRAMS

E.O. 12958: N/A

TAGS: [ENRC](#) [SP](#)

SUBJECT: SPAIN BETS ON WINDPOWER

REF: MADRID 4241

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SUMMARY  
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1. (SBU) Spain's "new" Socialist Party (PSOE) Government, unlike its center-right predecessor, appears to be taking quite seriously the commitment, enshrined in domestic law and EU Directive, to derive 12 percent of energy consumption from renewable energy sources by 2010. Renewable energy sources currently only provide 6.8 percent of Spanish energy consumption. Spain believes windpower represents its most promising renewable energy source and hopes wind will carry it toward compliance with the 12/2010 target. A quick glance at the numbers, and an analysis of the economics of renewable energy in Spain, suggests that windpower is indeed Spain's best option. But Madrid's pointman on renewable energy believes the 12/2010 target could only be met if the growth of energy demand was also suppressed vis-a-vis higher energy prices. He noted, however, that his proposals to increase energy prices had been blocked by Second Vice President and Minister of Economy and Finance Pedro Solbes, for fear that higher prices would increase inflation and put Spain's macro-economic fundamentals off kilter. Whichever way the energy price debate goes, renewable energy sources do not offer Spain a way out of its worrisome dependency on foreign energy supply or a magic solution to allow Madrid to implement its Kyoto Protocol commitments without significant economic dislocation. END SUMMARY.

2. (U) Higher oil prices and the GOS' decision to take its Kyoto Protocol commitments seriously have led to greater public focus on both nuclear and renewable energy sources. Reftel addressed prospects for a nuclear energy revival in Spain. This cable focuses on the renewable side of the energy mix equation.

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12 PERCENT BY 2010 TARGET  
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3. (SBU) In December 1999, the then-ruling center-right Popular Party (PP) Government promulgated the Renewable Energies Promotion Plan (REPP). The REPP called for Spain to increase the share of energy consumption met by renewable energy sources to the level of 12 percent by 2010. It also called for renewable sources to provide 29.4 percent of electricity generation by 2010. These targets were consistent with the EU's "White Book" on renewable energy, as well as EU Directive 2001/77/CE. However, by most accounts, the PP made no serious effort to meet these targets, preferring to let markets determine Spain's energy mix. Spain's "new" PSOE Government, which was elected in March 2004, announced that it would make serious efforts to meet the 12/2010 target. The new government, under the leadership of Prime Minister Zapatero, underscored that expanded renewable energy production, combined with greater emphasis on energy efficiency and a reduced energy demand growth rate, were integral parts of Spain's strategy to meet its Kyoto Protocol commitments (another initiative that the PP paid lip service to, but no made no serious effort to implement). Indeed, the government calculates that achieving the 12/2010 target would reduce annual Spanish CO2 emissions by over 40 million metric tons in 2011.

4. (U) To get a better handle on the PSOE's plans and level of commitment to renewable energy sources, ESTHOFF met recently with the Francisco Javier Garcia Brea, Director General (A/S equivalent) of the Industry Ministry's Institute for the Diversification and Savings of Energy (IDAE). Garcia, Spain's pointman on renewable energy, began with a general overview of renewables in Spain. His general sales pitch is that a greater focus on renewable energy sources would: (1) reduce dependency on foreign energy sources; (2) help Spain comply with its Kyoto Protocol greenhouse gas emissions limits; and, (3) help boost the Spanish economy (as Spanish industry is a world leader in wind and solar technologies). Garcia said it was his job to both increase the supply of renewable energy and reduce overall energy

demand (or at least reduce the growth rate of energy demand).

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CURRENT ENERGY CONSUMPTION SNAPSHOT  
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15. (U) According to Garcia, Spain's degree of external energy dependency (80 percent) is approximately double the EU average. According to 2003 IDAE figures, 50.3 percent of overall Spanish energy demand is met by petroleum, 15.8 percent by natural gas, 15.2 percent by coal, 11.9 percent by nuclear, and 6.8 percent by renewable sources. Of this 6.8 percent renewable share, 2.9 percent comes from biomass, 2.5 percent from hydroelectric, 0.8 percent from wind, and 0.2 percent from biogas. All other renewable sources, including photovoltaic and thermal solar, represent less than 0.3 percent of Spanish energy consumption.

16. (U) Expressed as percentages of electricity consumption vice overall energy consumption, coal provides 28 percent of Spanish electricity consumption, followed by nuclear (24 percent), renewables (24 percent), natural gas (16 percent) and petroleum (eight percent). Of the 24 percent of electricity consumption supplied by renewable sources, 18.5 percent comes from hydroelectric, followed by wind (5.1 percent) and biomass (0.6 percent).

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REPP TARGETS NEED REVISION  
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17. (U) Under the current REPP targets, Spain should generate 35,733 megawatts (MW) of electricity from renewable sources by 2010. The target breakdowns are as follows: 16,571 MW from hydro, 13,000 MW from wind, 2,230 from minihydro, 3,098 from biomass, 262 from urban solid waste, 200 from thermoelectric solar, 144 from photovoltaic solar and 78 from biogas.

18. (U) Garcia underscored that both the renewed emphasis on actually trying to meet the 12/2010 target, as well as energy consumption growth rates that had exceeded those predicted in the REPP (the original REPP targets were based on a 2 percent average annual energy consumption growth rate between 1999-2010, while the actual average annual growth rate between 1999-2003 has been 3.5 percent) had forced the GOS to reassess the original REPP targets. Since energy demand had grown faster than anticipated in the REPP, Spain would need even more renewable production to meet the 12/2010 goal. Garcia estimates that renewable energy production in Spain would have to increase 22 percent a year between 2005-10 in order to meet the 12/2010 goal. He also stressed that the business/technology environment in Spain had evolved since the targets were mandated in 1999 and they thus needed to be updated. Finally, he noted that electricity generation was the only segment of the renewables sector that could realistically help Spain meet the 12/2010 target.

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PSOE BETS ON WINDPOWER  
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19. (U) IDAE's proposals to adjust to these new realities, which are pending the approval of Commerce, Tourism, and Industry Minister Montilla, represent a clear GOS bet on windpower to meet the REPP targets. Under the current proposed/revised REPP targets, the 2010 windpower goal would increase from 13,000 MW to 20,000 MW. Besides wind, the proposed changes would increase the solar and biofuels targets, while reducing the biomass target. What is under discussion is not the 12/2010 target itself. That would stay the same. What would change is that windpower would emerge as the renewable technology of choice to meet the existing 12/2010 target. Indeed, some in the windpower industry are calling for the GOS to expand the 2010 windpower target to as high as 28,000 MW (which would represent 18.5 percent of electricity demand). They note that over 30,000 MW of economically feasible windpower resources have already been identified. This is not wishful thinking, as Garcia noted that the GOS had already authorized permits for close to 24,000 MW of wind parks. The final revised REPP targets are expected to be issued by the Commerce, Tourism and Industry Ministry by March 2005.

110. (U) Garcia said windpower clearly offers the single best chance of meeting the revised REPP targets and more broadly, along with solar, represents the future of renewable energy in Spain. Why wind? Garcia offered the following arguments: (1) the technology is ripe and mostly homegrown; (2) the economics work (i.e., it is profitable); (3) the regulatory framework is already in place; (4) the amount of unexploited wind resources offers long-term opportunities; and, (5) wind is the "greenest" of the renewable sources. Garcia said windpower in Spain "was not a chimera, but a reality; a brilliant reality." The GOS would play its part by continuing to renew annual agreements that guarantee that

above market rates are paid for electricity entering the grid from renewable sources. But the key driving force, Garcia noted, was that production costs were dropping dramatically, making windpower an ever more lucrative business opportunity.

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WINDPOWER IN SPAIN: FACTS AND FIGURES  
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11. (U) As of 2003, Spain had 6,075 MW of installed windpower. This represents 16 percent of total global installed capacity. It is also eight times the amount of installed windpower existing in Spain in 1998 (when Spain had only six percent of global installed capacity). The 6.075 MW also represents 47 percent of the current 2010 REPP target of 13,000 MW. In 2003, Spain was second in Europe after Germany and third in the world (behind Germany and the U.S.) in terms of installed windpower. Spain is set to pass the U.S. and move into second place in installed windpower during the course of 2004 (8,000 MW of installed windpower by the end of 2004 versus 15,000 MW for Germany). Half of the wind turbines installed globally in 2003 were installed in either Spain or Germany. During 2003 alone, installed windpower capacity in Spain increased by 28 percent (the global growth rate was 27 percent and the EU growth rate was 23 percent). The 2004 installed windpower growth rate for Spain has been estimated at 29 percent. What all these numbers suggest is that windpower represents Spain's only realistic hope of meeting the 12/2010 targets.

12. (U) As for the regional breakdown of Spain's windpower resources, it is clear that the dominate region is Galicia (1,614 MW installed), followed by Castilla-La Mancha (986 MW), Aragon (985 MW), Castilla y Leon (925 MW), and Navarra (722 MW). These five regions house 85 percent of total installed windpower capacity in Spain. Garcia said the development of windpower in other regions with great potential (i.e., Cataluna, Asturias and Cantabria) had been stymied by environmental opposition (mostly defenders of migratory bird species that perish when they fly into wind turbines and those who believe windmills represent a type of visual pollution).

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SPANISH INDUSTRY WELL-PLACED IN WINDPOWER  
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13. (U) The Spanish firm GAMESA is the world's third largest producer of wind turbines, with 17.5 percent of the global market in 2003. Spanish firms produced 78 percent of the wind turbines installed in Spain in 2003. Foreign firms, including GE (which is the world's second largest producer of wind turbines with 18 percent of the world market), installed the remaining 22 percent. IDEA estimates that 350 Spanish firms are now involved in the windpower sector, representing over 81,000 jobs (20,000 direct, 61,000 indirect). This is expected to grow to 200,000 jobs by 2010. IBERDROLA, Spain's second largest electricity supplier, claims to be the world's largest generator of renewable energy, with 3,100 MW installed by the end of 2004 and plans to have 5,500 MW installed by 2008. Garcia told ESTHOFF that China plans to make major windpower investments and that Spanish business (e.g., GAMESA) has an excellent chance of capturing a large part of this potentially lucrative wind turbine market.

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REMAINING WINDPOWER CHALLENGES  
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14. (U) When asked about major impediments to windpower's continued growth in Spain, Garcia cited three items all related to ensuring a seamless connection of wind parks to the Spanish electricity grid: (1) the need for better wind turbine technology to ensure electricity supply security in times of low winds; (2) the need for more effective connection of wind parks to the electricity grid; and, (3) the imperative to connect the Spanish electricity grid with the rest of Europe (e.g., France) to better stabilize the domestic electricity grid. All three measures, Garcia stressed, would help ensure that greater reliance on windpower does not lead to a higher rate of electricity grid collapse (thus increasing the economic attractiveness of windparks).

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SOLAR A LONGER-TERM BET  
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15. (U) Garcia clearly believes that after windpower, solar energy has the best long-term growth potential in Spain. Spain, with 9.3 percent of the global market, is the EU's second largest producer of photovoltaic cells (after Germany) and the world's fourth largest producer (after Japan, the U.S., and Germany). Most of Spain's production is exported to Germany (which has 10 times more installed panels than Spain). To stimulate the domestic panel market, the Zapatero

Government plans to alter Spain's building codes to require the installation of thermal solar energy panels in all new or renovated buildings. The idea is for these panels to become the main source of sanitary hot water for all new or renovated buildings. But Garcia stressed that the bet on solar was long-term and that neither type of solar would really help meet the 12/2010 target.

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DEMAND REDUCTION ALSO KEY  
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16. (U) Garcia underscored that the demand side of the equation was also key. He said Spain needs to promote greater energy use efficiency while simultaneously reducing the growth rate of energy demand. Expanded renewable energy production is far less significant if energy demand growth exceeds domestic energy supply growth. To foster greater efficiency, the PSOE Government plans greater efforts to implement the 2003-12 Energy Efficiency Strategy passed by the former PP government in November 2003. The building code changes referenced above are the first significant new efficiency-related measure adopted by the PSOE government. Garcia said others would soon follow.

17. (SBU) But the best way to reduce demand, according to Garcia, would be to increase energy prices (presumably via higher taxes). At Garcia's urging, Industry Minister Montilla vetted such a proposal with his Cabinet colleagues. But the proposal was shot down by Second Vice President and Minister of Economy and Finance Pedro Solbes, for fear that higher energy prices would increase inflation and put Spain's macro-economic fundamentals off kilter. Montilla is now playing the loyal cabinet soldier, stating in repeated public remarks that he does not plan to increase energy prices beyond current inflation rates. Indeed rates are expected to rise by only 2 percent in 2005, well below the anticipated 2004 Spanish inflation rate of 2.8 percent.

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COMMENT  
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18. (SBU) While hydroelectric represents by far the biggest source of renewable electricity generation in Spain, most economically feasible hydro resources have already been exploited and most analysts doubt hydro could make a significant new contribution toward meeting the 12/2010 target. The bet on wind appears intelligent. Windpower is the fastest growing renewable energy source in Spain and the one with the greatest immediate potential for expansion. The business community clearly sees a bright future in windpower. But it is also clear that the wind boom is not the result of GOS sponsorship. The real reason, not surprisingly, is that there is money to be made in this business. In this regard and notwithstanding PSOE denials, there is not that much difference between the PSOE and PP renewable energy policy. The PSOE's bet on windpower is best viewed as a recognition of the market potential of windpower in Spain.

19. (SBU) The economic viability of solar energy in Spain, on the other hand, is less well established and it remains doubtful that solar could emerge as a significant player in the short to medium term. The building code changes should boost domestic demand for photovoltaic panels and are a necessary, but probably not sufficient boost for this sector. Spanish companies are well established in both the wind and solar markets, being world leaders in the production of both wind generators and photovoltaic panels. Thus there are possibilities for interesting synergies.

20. (SBU) However it is important to remember that the renewed focus on renewable energy will not significantly alter Spain's serious dependency on foreign energy sources. The best solution for that larger question would probably be nuclear, but that remains a political taboo for now (see reftel). Prospects for significant change on the demand side are also uncertain. Higher energy prices seem out of the question (at least in the short-run) for both political and economic reasons, as attempting to curb demand via higher prices and/or other mechanisms would likely have a negative impact on economic growth. Promoting better energy efficiency via tax incentives is probably the easiest way for Spain to slow the growth rate of energy demand, but this again would likely be a drop in the bucket and not a solution in itself. What is clear is that there are no easy answers to the problem of how Spain can reduce its foreign energy dependency, stimulate renewable energy production, and meet Kyoto Protocol commitments while simultaneously trying to grow its economy.

MANZANARES